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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/542,460	04/04/2000	Tatsuro Yamazaki	862.C1883	6080

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EXAMINER

LAO, LUN YI

ART UNIT PAPER NUMBER

2629

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/542,460

Applicant(s)

YAMAZAKI ET AL.

Examiner

LUN-YI LAO

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,7,9,10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,7,9,10 and 12-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/12/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bassetti, Jr. et al(5,185,602) in view of Ikarashi et al(5,027,036).

As to claims 1, and 12, Bassetti Jr. et al teach an electron-emitting device(LED or EL display) comprising frame rate conversion means(33) for converting a frame rate of an input image signal(see figures 1, 9, 10; column 2, lines 46-62; column 2, lines 33-66; column 9, lines 40-68 and column 10, lines 1-6).

Bassetti et al fail to point out the frame rate conversion means for converting a frame rate of the input image signal so that a luminance characteristic of the fluorescent depending on an electron irradiation time for the fluorescent substances has a linearity.

Ikarashi et al teach the output signal from a conversion means(12) for converting a frame rate of the input image signal so that a luminance characteristic of the fluorescent depending on an electron irradiation time for the fluorescent substances has

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a linearity(see figures 2, 4; column 5, lines 3-25 and lines 62-68; and column 6, lines 1-14). It would have been obvious to have modified Bassetti, Jr. et al with the teaching of Ikarashi et al, so as to provide a display having a high quality in a luminance characteristic and to prolong the apparent life of the EL display device(see column 6, lines 16).

3. Claims 3, 7, 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bassetti, Jr. et al in view of Ikarashi et al(5,027,036) and Okuno et al(6,288,745).

Bassetti, Jr. as modified fail to disclose a display system for converting an interlaced scanning into a non-interlaced scanning.

Okuno et al teach a display system for converting an interlaced format into a non-interlaced format(see column 1, lines 4-12 and column 2, lines 56-58). It would have been obvious to have modified Bassetti, Jr. et al as modified with the teaching of Okuno et al, so an interlaced display data could be presented on non-interlaced display.

4. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bassetti, Jr. et al in view of Ikarashi et al and Fujii(6,008,588).

Bassetti, Jr. et al as modified fail to disclose a pulse width modulation signal.

Fujii teaches an EL display comprising means for performing pulse width modulation by a signal of frame rate is changed(see figures 2-7, 10; column 15, lines 13-68 and column 16, lines 1-34). It would have been obvious to have modified Bassetti, Jr. et al as modified with the teaching of Fujii, so provide a gray scale display to a user.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bassetti, Jr. et al in view of Ikarashi et al, Okuno et al and Fujii(6,008,588).

Bassetti, Jr. et al as modified fail to disclose a pulse width modulation signal.

Fujii teaches an EL display comprising means for performing pulse width modulation by a signal of frame rate is changed(see figures 2-7, 10; column 15, lines 13-68 and column 16, lines 1-34). It would have been obvious to have modified Bassetti, Jr. et al as modified with the teaching of Fujii, so provide a gray scale display to a user.

6. Claims 14, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bassetti, Jr. et al in view of Ikarashi et al(5,027,036) and Suzuki et al(5,155,416).

Bassetti, Jr. et al as modified fail to disclose a voltage applied to electron for accelerating electrons is higher than 5KV.

Suzuki et al teach an electron-emitting display device for applying 10KV to an electrode(14)(see figures 1, 4 and column 5, lines 31-50). It would have been obvious to have modified Bassetti, Jr. et al as modified with the teaching of Suzuki et al, since Bassetti, Jr. et al and Suzuki et al both teach an electron-emitting display and so as to attract electrons emitting by field effect elements.

7. Claims 15, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bassetti, Jr. et al in view of Ikarashi et al(5,027,036), Okuno et al and Suzuki et al(5,155,416).

Bassetti, Jr. et al as modified fail to disclose a voltage applied to electron for accelerating electrons is higher than 5KV.

Suzuki et al teach an electron-emitting display device for applying 10KV to an electrode(14)(see figures 1, 4 and column 5, lines 31-50). It would have been obvious to have modified Bassetti, Jr. et al as modified with the teaching of Suzuki et al, since Bassetti, Jr. et al and Suzuki et al both teach an electron-emitting display and so as to attract electrons emitting by filed effect elements.

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bassetti, Jr. et al in view of Ikarashi et al(5,027,036) and Yoshioka et al(5,872,541).

Bassetti, Jr. et al as modified fail to point out a plurality of electron emitting devices and the fluorescent substances are arranged apart from each other.

Yoshioka et al teach an image forming apparatus(electron-emitting apparatus) comprising a plurality of emitting devices(ED) and fluorescent substances are arranged apart from each other(see figures 39A-39C; column 21, lines 2-23 and column 32, lines 36-65). It would have been obvious to have modified Bassetti, Jr. as modified with the teaching of Yoshioka et al, so as to exhibit more excellent characteristics than other conventional image display apparatus.

9. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bassetti, Jr. et al in view of Ikarashi et al(5,027,036), , Okuno et al and Yoshioka et al(5,872,541).

Bassetti, Jr. et al as modified fail to point out a plurality of electron emitting devices and the fluorescent substances are arranged apart from each other.

Yoshioka et al teach an image forming apparatus(electron-emitting apparatus) comprising a plurality of emitting devices(ED) and fluorescent substances are arranged

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apart from each other(see figures 39A-39C; column 21, lines 2-23 and column 32, lines 36-65). It would have been obvious to have modified Bassetti, Jr. as modified with the teaching of Yoshioka et al, so as to exhibit more excellent characteristics than other conventional image display apparatus.

Response to Arguments

10. Applicant's arguments with respect to claims 1, 3, 4, 6-7, 9-10 and 12-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sato(JP05-35207) teaches an EL display comprising the brightness modulation of an EL light emitting element which is linearly proportional to a gradation data voltage.

Xie et al(6,025,819) teach a method for providing a gray scale in a field emission display.

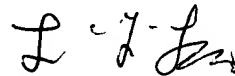
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi Lao whose telephone number is 571-272-7671. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 14, 2006



Lun-yi Lao

Primary Examiner